

CLAIMS AS AMENDED BY RESPONSE FILED

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1. A device for removing portions of the outer layers of skin comprising:
a source of a vacuum, and
a tube with an abrasive treatment tip thereon for dislodging cells from a surface being treated, the tube being attached to the source of vacuum so that a lumen through the tube has a reduced pressure therein which is less than the ambient pressure surrounding the tube, the abrasive treatment tip having at least one opening therein for applying the reduced pressure within the tube to a skin surface, said vacuum causing the skin being treated to have an increased area of contact with the abrasive tip, the vacuum also functioning to collect tissue or cells removed from the skin surface being treated.

2. The device of claim 1 wherein the source of vacuum is a vacuum pump enclosed within a housing, the housing have means thereon for monitoring and controlling the level of vacuum delivered.

3. The device of claim 1 further including means for varying the level of reduced pressure applied through the treatment tip.

4. The device of claim 3 wherein the means for varying the level of reduced pressure applied through the treatment tip is a valve mechanism mounted in the treatment tube

5. The device of claim 3 wherein the means for varying the level of reduced pressure applied through the treatment tip is a valve mechanism in operative connection to the source of vacuum.

6. The device of claim 1 wherein the abrasive tip has [diamond] particles of diamond, aluminum oxide, silicon carbide, silicon oxide or metal nitrides attached thereto.

7. The device of claim 1 wherein the abrasive tip has a mechanically or chemically created roughened surface.

8. A tubular device for performing micro-abrasion of a skin surface comprising a tubular device with a lumen there through, the tubular device having a first end with an abrasive surface and means on a second end thereof for attachment to a

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source of a vacuum to apply a negative pressure to to a skin surface to be treated, said vacuum causing increased contact between the skin surface and the abrasive surface.

9. The tubular device of claim 8 wherein the abrasive surface on the first end comprises crystalline diamond pieces permanently secured to said first end.

10. The tubular device of claim 8 wherein the abrasive surface on the first end comprises crystalline aluminum oxide pieces permanently secured to said first end.

11. The device of claim 1 further including a collection filter disposed between the treatment tip and the source of vacuum so that all particulate matter entering the at least one opening in the abrasive treatment tip is collected therein.

12. A method of treating the skin surface of a patient to remove surface cells and reduce undesirable skin blemishes comprising
providing a tubular treatment tool with an abrasive skin contacting surface,
providing a pressure through a lumen within the tubular treatment tool which is less than ambient pressure surrounding the treatment tube, and
bringing the abrasive skin contacting surface into contact with the skin surface to be treated while said lesser pressure is delivered to the skin surface through the lumen and moving the abrasive skin contacting surface across the skin surface.

13. The method of claim 12 wherein the abrasive skin contacting surface has an abrasive crystalline material adhered thereto.

14. The method of claim 12 wherein the abrasive skin contacting surface is formed by a machining process.

15. The method of claim 13 wherein the abrasive crystalline material is selected from the group consisting of crystals of diamond, aluminum oxide, silicon carbide, silicon oxide and metal nitrides.